DOCUMENT RESUME

ED 313 881 EC 222 002

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TITLE Maternal Compensatory Factors for Infants with Cerebral Palsy.
SPONS AGENCY National Inst. of Child Health and Human Development (NIH), Bethesda, Md.
PUB DATE Apr 89
GRANT HD-22799-01
NOTE 8p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Kansas City, MO, April 27-30, 1989).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cerebral Palsy; *Congenital Impairments; Infants; Interaction; *Mother Attitudes; *Mothers; Parent Child Relationship; *Parent Influence; Play; *Self Esteem; *Spontaneous Behavior; Videotape Recordings

ABSTRACT

Viewed from an ecological perspective, maternal sense of competence and social support would be expected to influence a mother's-spontaneous interactions with her infant. In this study 29 mother-infant dyads were visited in their homes when the infants with cerebral palsy were 18 months old. Infants' solitary spontaneous play and mother-infant interactive play were videotaped. Mothers were asked to complete a measure of functional/dysfunctional maternal-child caregiving patterns. Results suggest that characteristics of an optimal caregiving context for such infants are maternal interaction, confidence in parenting skills, and narrowing of the mother's social interests. Over time, however, maternal isolation may place the ecological balance of the caregiving context at risk. (Author/PB)

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Maternal Compensatory Factors for Infants with Cerebral Palsy

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Poster Presentation at The Biennial Meeting of the Society for Research in Child Development, April 27 - 30, 1989, Kansas City, Missouri.

This study was supported by a research grant from the National Institute of Child Health and Human Development (#1-R29 HD 22799-01) and by a student initiated grant from the Office of Special Education. The authors are grateful to the families who participated in this study. The authors also wish to acknowledge the special talents and contributions of members of the research team of The Play and Child Development Project.

EC 222002

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According to transactional theory, compensatory factors in the caregiving context can positively influence developmental outcomes in biologically at-risk infants. Viewed from an ecological perspective, maternal sense of competence and social support would be expected to influence a mother's interactions with her infant. In the present study, 29 mother-infant dyads were visited in their homes when the infants with cerebral palsy were 18 months old. Infants' solitary spontaneous play and mother-infant interactive play were videotaped. Mothers were asked to complete a measure of functional/dysfunctional maternal-child caregiving patterns.

The linear combination of appropriate maternal interaction, maternal sense of competence and maternal social isolation accounted for 49% of the variance in infant spontaneous mastery play in a standard multiple regression. The results of the regression suggest that the characteristics of an optimal caregiving context for an infant with cerebral palsy are appropriate maternal interaction, confidence in parenting skills, and a narrowing of the mother's social interests. Over time, however maternal isolation, a concomitant of the extra attention given the infant, may place the ecological balance of the caregiving context at-risk.

According to transactional theory, compensatory factors in the caregiving context can positively influence developmental outcomes in biologically at-risk infants. Viewed from an ecological perspective, maternal sense of competence and social support would be expected to influence a mother's interactions with her infant. Therefore, the capacity of the caregiving context to compensate for biological vulnerability may be closely linked to maternal adjustment.

In the present study, 29 mother-infant dyads were visited in their homes when the infants with cerebral palsy were 18 months old. Infants' solitary spontaneous play (Belsky & Most, 1981) and mother-infant interactive play (Farran, Kasari, Comfort, & Jay, 1986) were videotaped. Mothers were also asked to complete the Parenting Stress Index (PSI) (1986), a measure of functional/dysfunctional maternal-child caregiving patterns. See Table 1 for a description of measures, method, and data reduction.

Means, standard deviations, and Pearson correlation coefficients were obtained for all variables (See Table 2). Appropriate maternal interaction was significantly correlated with spontaneous mastery ($r = .517$, $p < .01$) and with maternal sense of isolation ($r = -.311$, $p < .05$); the correlation between maternal sense of isolation and sense of competence was also significant ($r = .593$, $p < .001$). A standard multiple regression was performed between spontaneous mastery at 18 months as the dependent variable and appropriate maternal interaction, maternal sense of competence, and maternal social isolation as independent variables (See Table 2). The linear combination of appropriate maternal interaction, maternal sense of competence, and maternal social isolation accounted for 49% of the variance in spontaneous mastery: $F(3,25) = 7.926$, $p < .001$. Each of the three independent variables differed significantly from zero with appropriate maternal interaction accounting for the strongest relative effect ($\beta = .614$) and the most variance contributed by an independent variable to the proportion of total variance explained in the dependent variable ($sr^2 = .34$). In bivariate regression analyses of spontaneous mastery with each of the independent variables, only maternal interaction differed significantly from zero ($R^2 = .27$, $p < .01$).

The findings of this study highlight the influence of the ecological system of maternal sense of competence and isolation and developmentally appropriate interactions on infants' mastery performance in play. In the regression equation the maternal isolation variable has a suppressor effect. Scores below the mean result in lower prediction of spontaneous mastery whereas scores above the mean result in a higher prediction. The results of the regression suggest that the characteristics of an optimal caregiving context for an infant with cerebral palsy are appropriate maternal interaction, confidence in parenting skills, and a narrowing of the mother's social interests. Over time, however, maternal social isolation, a concomitant of the extra attention given the infant, may place the ecological balance of the caregiving context at risk. Competent mothers' special efforts with their infants with special needs may deplete their own resources, resulting in a continuum of caretaking casualty during later developmental periods. Future studies will address the stability of maternal compensatory factors for infants with special needs.

Table 1
Measures, Method, and Data Reduction at 18 Months

Measure	Method	Data Reduction
Neuro-developmental Exam	Motor quotients obtained: Minimal > 75 Mild 50-75 Moderate 33-50 Severe < 33	Minimal = 13% of the infants Mild = 27% of the infants Moderate = 23% of the infants Severe = 37% of the infants
Spontaneous Mastery	Infants' spontaneous solitary play was videotaped with two sets of toys for maximum of 30 minutes.	Coding: Videotaped data was coded according to the Belsky and Most (1981) Playscale. Spontaneous mastery scores were calculated by weighting the frequency of play activity according to the play level on the Belsky and Most Playscale, therefore reflecting infants' level of sophistication and persistence at preferred play levels (Hrncir, Speller, & West, 1985). Reliability: Minimum among coders: .81
Appropriate Maternal Interaction	Mothers provided with a standard set of toys and asked to "play as you normally would with your baby." Interactive play videotaped for 20 minutes during the same home visit.	Coding: Videotaped data was coded according to the Farran, Kasari, Comfort, and Jay (1986), Parent/Caregiver Involvement Scale. The maternal developmental appropriateness scale, reflecting mothers' ability to match their behaviors to developmental needs of their infant was used for analyses. Reliability: Minimum among coders: .77
Maternal Sense of Competence	Mothers were asked to complete the Parenting Stress Index (PSI) (1986), a measure of functional/dysfunctional maternal-child caregiving patterns.	Maternal sense of competence, a major scale of the PSI, was used for analyses. High scores reflect mothers who do not find the role of parenting reinforcing and are overwhelmed with feelings of "this is more than I bargained for."
Maternal Social Isolation	Mothers were asked to complete the Parenting Stress Index (PSI) (1986), a measure of functional/dysfunctional maternal-child caregiving patterns.	Maternal social isolation, a major scale of the PSI, was used for analyses. High scores reflect mothers who are socially isolated from their peers, relatives and other social support systems.

Table 2

Standard Multiple Regression of Appropriate Maternal Interaction, Maternal Sense of Competence and Social Isolation on Spontaneous Mastery

Variables	Spontaneous Mastery At 18 Months (DV)	Appropriate Maternal Interaction	Maternal Sense of Competence	Maternal Social Isolation	B	SE B	β	sr^2 (Unique)
Appropriate Maternal Interaction	.517**				.066***	.016	.614	.34
Maternal Sense of Competence	-.257	-.156			-.044*	.016	-.494	.16
Maternal Social Isolation	.077	-.311*	.593***		.086**	.028	.561	.19
				Interoept = -.311		.760		
Means	1.904	34.621	28.414	13.897				
Standard Deviations	.664	6.178	7.404	4.354			R^2 = .49 Adjusted R^2 = .43 R = .70***	

*p<.05. **p<.01. ***p<.001.